

S/N 10/076,882

PATENT

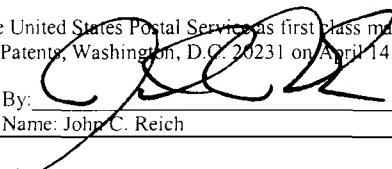
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	GUTTMAN ET AL.	Examiner:	Mantis Mercader, Eleni M.
Serial No.:	10/076,882	Group Art Unit:	3737
Filed:	February 14, 2002	Docket No.:	11613.0050USU1
Title:	REAL-TIME, INTERACTIVE VOLUMETRIC MAGNETIC RESONANCE IMAGING		

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**CERTIFICATE UNDER 37 CFR 1.8:**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, with sufficient postage, in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231 on April 14, 2004.

By:   
Name: John C. Reich

RESPONSE

Mail Stop-Non-Fee Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

The applicants provide the following amendment and remarks in response to the office action dated January 14, 2004. No claims were amended, added, or cancelled. Claims 1-19 are currently pending. In light of the following remarks, the applicants respectfully request withdrawal of the pending rejections, and advancement of this application to allowance.

**A. Rejection Under 35 U.S.C. § 102**

Claims 1 and 19 stand rejected as being anticipated by Vining. The applicants respectfully traverse this rejection.

Vining teaches an imaging system in which data for the image is generated and stored in memory. A user retrieves a desired data set from memory, and the computer renders a volume from this data to form an image. The user may interact with the image in real-time, which in the context of Vining means that the computer will quickly

regenerate the image as instructed by the user. Vining fails to teach or suggest generating the volume with respect to the act of collecting MRI data.

In sharp contrast to the cited reference, claim 1 sets forth producing a volume rendering from the MRI data in real time with respect to the act of collecting MRI data representative of shapes within the image volume. Claim 19 sets forth a computer that receives MRI data from an MRI scanner and produces a volume rendering from the MRI data in real time with respect to the act of collecting the MRI data. The claimed invention has advantages over the prior art such as Vining, because it also allows a caregiver to obtain real-time three-dimensional feedback while manipulating objects within a patient's body.

Therefore, the applicants respectfully submit that the claimed invention is patentably distinct over the cited reference and request withdrawal of the pending rejection.

#### **B. Rejection of 35 U.S.C. § 103**

Claims 2-18 were rejected as being obvious over Vining in view of Deforge et al. and Darrow et al. The applicants respectfully traverse this rejection.

The pending claims were distinguished above from Vining, which fails to teach or suggest teach or suggest either the claimed act of producing a volume rendering from the MRI data in real time with respect to the act of collecting MRI data representative of shapes within the image volume or the claimed computer that receives MRI data from an MRI scanner and produces a volume rendering from the MRI data in real time with respect to the act of collecting the MRI data..

Deforge et al. also fails to teach or suggest the claimed invention. It is directed to ultrasound devices in which the user must continuously sweep or rock a transducer in order to update an image. It does not teach or suggest the collection of MRI data. Nor does it teach or suggest either the claimed act of producing a volume rendering from the MRI data in real time with respect to the act of collecting MRI data representative of shapes within the image volume or the claimed computer that receives MRI data from an MRI scanner and produces a volume rendering from the MRI data in real time with respect to the act of collecting the MRI data.

Darrow et al. is also distinguishable from the pending claims. It is directed to a scan control device that a caregiver can maneuver around a patent in bore. It teaches the generation of two-dimensional images. As with the other cited references, Darrow et al fails to teach or suggest the claimed act of producing a volume rendering from the MRI data in real time with respect to the act of collecting MRI data representative of shapes within the image volume or a computer that receives MRI data from an MRI scanner and produces a volume rendering from the MRI data in real time with respect to the act of collecting the MRI data.

Therefore, the applicant respectfully submits that no combination of the cited references will result in the claimed invention and

### Conclusion

In light of the foregoing amendments and remarks, the applicants request withdrawal of the pending rejections and issuance of a notice of allowance. The applicants note there may be reasons and arguments that the pending claims are patentably distinct from the cited references in addition to those set forth herein. The applicants reserve the right to raise any such argument in the future and to pursue any claim scope supported by the disclosure set forth in the application.

Please contact the undersigned attorney if there are any questions.

Respectfully submitted,

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Date:



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